

Technical Data: Zamak 2 Zinc Alloy

Product Description

Zinc Alloy ZA-5, commonly known as Zamak 5, is a widely used alloy in the manufacturing industry, particularly in die casting. Comprising zinc as the base metal, along with aluminum, magnesium, and copper, Zamak 5 offers a balanced combination of mechanical properties and casting characteristics. With a composition of approximately 4% aluminum, 1% copper, and 0.05% magnesium, Zamak 5 exhibits enhanced strength and hardness compared to other zinc alloys. This alloy is favored for its excellent casting fluidity, ensuring intricate and detailed parts can be produced with high precision.

In the context of Neway's manufacturing capabilities, Zamak 5 is an ideal choice for die-casting applications. The alloy's low melting point, around 380°C (716°F), enables efficient and cost-effective production processes. Neway's expertise in precision casting methods further optimizes the casting process, including die casting.



Chemical Comparison

Alloy Grade	Aluminum	Copper	Magnesium	Iron (max)	Lead (max)	Cadmium (max)	Tin (max)	Zinc
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Zamak 3	3.5	0.25	0.035	0.075	0.003	0.002	0.002	95.7
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Physical and Mechanical Properties

Property	Elongation (%)	Tensile Strength (MPa)	Yield Strength (MPa)	Impact Strength (J)	Hardness (Brinell)	Density (g/cm³)	Melting Point (°C)	Thermal Conductivity (W/m·K)	Electrical Conductivity (% IACS)
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Zamak 3	7	240	180	40	80	6.6	380	109	27-30
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Typical Applications

Zamak 5 Die Cast Handles



Die casting offers notable advantages, such as tight tolerances and rapid production cycles. Neway's expertise in die casting ensures that Zamak 5 handles meet stringent dimensional requirements, with tolerances as low as ± 0.05 mm. This precision is crucial for applications where handles must seamlessly integrate with other components. Furthermore, Zamak 5's superior mechanical properties contribute to the durability of handles. Neway's die-cast handles provide robust performance in diverse environments with a tensile strength of approximately 380 MPa and an elongation at a break of 3%. This reliability is especially crucial in applications where handles are subjected to repeated stress and strain.

Regarding productivity, Neway's die-casting process boasts an efficiency rate of over 95%, ensuring minimal material wastage and reduced production costs. The streamlined workflow and advanced automation enable Neway to deliver large quantities of Zamak 5 die-cast handles within short lead times.

Note

The above data are reference material science data. This data reference is not binding and is not considered as authoritative test data. If your material requirements are extremely precise, please contact our material engineers. Tel | +86 18926788217 | Web | www.newayprecision.com | Contact Neway



Zamak 5 Zinc Alloy

Zinc Alloy for Die Casting

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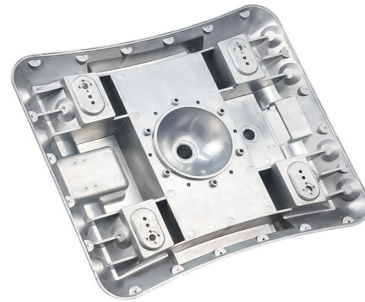
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Die Cast Zamak 5 Automotive Components

Zamak 5, with its zinc, aluminum, magnesium, and copper composition, ensures excellent casting characteristics in the die-casting process. This alloy allows for intricate designs with tight tolerances, meeting automotive industry standards. Neway's commitment to precision is evident in achieving tolerances as tight as ± 0.05 mm in producing Zamak 5 automotive components.

Furthermore, the die-casting method itself contributes to enhanced efficiency in mass production. Neway optimizes the manufacturing process for higher productivity, with cycle times ranging from 10 to 20 seconds. The rapid solidification of Zamak 5 in the die-casting mold results in parts with superior mechanical properties, including a tensile strength of 331 MPa and a yield strength of 228 MPa.

Neway's expertise in die-casting extends beyond mere production. We understand the automotive industry's demand for lightweight yet robust components. Zamak 5 fulfills this requirement with a 6.7 g/cm^3 density, making it an ideal choice for weight reduction without compromising structural integrity.



Zamak 5 Die Casting Plumbing and Faucet Components



Zamak 5, composed of zinc, aluminum, magnesium, and copper, offers excellent corrosion resistance, a crucial factor in plumbing applications. Neway ensures the production of plumbing components with a corrosion resistance rating of over 120 hours in salt spray testing, exceeding industry standards. This longevity is essential for maintaining the integrity of plumbing systems over an extended service life.

The die-casting process employed by Neway further enhances the efficiency and precision of producing plumbing and faucet components. Tolerances as tight as ± 0.1 mm are consistently achieved, ensuring seamless compatibility and reliable performance in plumbing assemblies. This precision is especially critical for components like valves and connectors, where dimensional accuracy is paramount. Zamak 5's inherent strength, with a tensile strength of 331 MPa and a yield strength of 228 MPa, makes it an ideal material for plumbing applications. Neway's commitment to quality is evident in producing components that can withstand high-pressure conditions while maintaining structural integrity.

Zamak 5 Die Cast Lighting Fixtures

The die-casting process employed by Neway ensures the production of lighting fixtures with exceptional precision. Tolerances as tight as ± 0.05 mm are consistently achieved, allowing for the creation of intricate and aesthetically pleasing designs. This precision is especially crucial for lighting fixtures, where visual appeal is as important as functional performance.

Zamak 5's inherent corrosion resistance is a crucial advantage for lighting fixtures, particularly those installed in outdoor or humid environments. Neway guarantees a corrosion resistance rating of over 120 hours in salt spray testing, ensuring the longevity and durability of lighting components even in challenging conditions.

The strength of Zamak 5, with a tensile strength of 331 MPa and a yield strength of 228 MPa, contributes to the structural integrity of lighting fixtures. It is essential to ensure that the fixtures can withstand environmental factors and maintain their form and function over time.



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